



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/534,981

05/16/2005

Kazunobu Itonaga

245402011300

1803

25227 7590 05/28/2008

MORRISON & FOERSTER LLP
1650 TYSONS BOULEVARD
SUITE 400
MCLEAN, VA 22102

EXAMINER

JANG, CHRISTIAN YONGKYUN

ART UNIT

PAPER NUMBER

3735

MAIL DATE

DELIVERY MODE

05/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,981	Applicant(s) ITONAGA ET AL.	
	Examiner CHRISTIAN Y. JANG	Art Unit 3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-14,16-19 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6-8,10,12-14,16-19,30 is/are rejected.
- 7) ☒ Claim(s) 2,5,9 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to Argument and Amendment filed on 3/10/08 and Supplemental Response filed on 3/11/08. Claims 1, 2, 4-14, 16-19, and 30 are pending. Amendment to the specification is acknowledged and the objection is withdrawn.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 7, 10, 12, 16, 18, 19, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Harada et al. (USP #5,179,956).
4. Harada teaches a pulse wave measuring apparatus with a substrate having a pressure sensor (60), a protection member having accommodation space (62 & 50) and formed of a conductive material (col. 4, lines 59-60), and an air chamber disposed between said wall surface and an end surface of the substrate (col. 4, lines 59-60) and open to atmosphere (col. 5, lines 8-15), a protection film (90, 92, 94), an attachment mechanism (col. 6, lines 29-30) that is integrally formed with the protection film (col. 6, lines 29-30), an outer circumferential wall (94), protection member connected to a ground potential (col. 7, lines 25-27) and formed of a metal (col. 4, lines 59-60) or ceramic material (col. 4, line 48), with a plurality of irregularities on its surface (when viewed on a microscopic level), as indicated on a previous action. Furthermore, due to the adhesive layer taught by Harada as mentioned by the applicant, the chamber would not be open to atmosphere through the rubber layer (90) and adhesive layer (94). However, Harada does teach that the air chamber allows for the application of

atmospheric pressure to the surface of the chip. This then must inherently teach a communication hole through the protection member so that communication with the atmosphere is possible.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 4, 6, 13, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al (USP #5,179,956) in view of Fujikawa et al (USP #5,101,829).

7. Harada teaches the pulse wave measuring apparatus further comprising a flexible line including a fixed portion (84a), a connection portion (84b), and a loose portion (3; col. 5, lines 49-50 and 60-61) or a portion of a flexible line with different rigidity (col. 5, lines 60-64), a protection member with an inner frame body (56) and an outer frame body (50 & 62) with the flexible line inserted between said bodies (84), an overhanging portion of the outer frame body (62), and a flexible line inserted between and outer frame body and protected by the overhanging portion (80; col. 4, lines 60-62); protection member electrically connected to the ground potential (col. 7, lines 25-27), and the terminals of the second connection connected to the flexible cable (78).

Harada fails to teach a circuit board processing a signal, and a flexible line transmitting a signal output from said pressure sensor to said circuit board. However, Harada does teach a flexible line transmitting a signal output from a pressure sensor to a substrate (Harada, Fig 3, elements 76, 80, and 78). Fujikawa teaches the substrate as

Art Unit: 3735

a semiconductor, for converting a pressure pulse wave transmitted into an electric signal (Fujikawa, Abstract). It would have been obvious to one of ordinary skill in the art to modify Harada with the signal processing circuit board and flexible line of Fujikawa to increase device efficiency.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al (USP #5,179,956) in view of Chesney et al. (USP #6,159,166).

9. Harada fails to teach a protection member has a substantially circular outer shape when viewed from direction orthogonal to said main surface of said substrate, and said attachment mechanism is an O ring.

However, Chesney teaches such a limitation (Chesney, Fig 1C, element 120, view of diaphragm from bottom, and Fig 1A, element 140, o-ring). It would have been obvious to one of ordinary skill in the art to modify Harada with Chesney's O ring to reduce manufacturing costs.

Allowable Subject Matter

10. Claims 2, 5, 9, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. As to claim 2, the prior art of record fails to teach a pulse wave measuring apparatus with an air chamber open to atmosphere and the air chamber being provided around an entire perimeter of said substrate.

12. Claims 5, 9, and 11 are indicated as allowable as previously indicated.

Response to Arguments

13. Applicant's arguments filed on 3/10/2008 have been fully considered but they are not persuasive.

14. Applicant has argued that Harada fails to teach the combination of elements in claim 1, laying out in particular the argument that the rear surface of a sensor chip is not the same as an end surface claimed by the applicant. The examiner disagrees. While the definition the "end surface" as *intended* by the applicant may differ from embodiment taught by Harada, without a limiting definition found in the specification, the word "end surface" can be interpreted to mean any individual or pair of opposing surfaces; in short, *any* surface. Since the claim language does not enable one to distinguish which surfaces, in particular, are meant as "end surface", the teachings of Harada *do* disclose the claimed combination of elements by the applicant.

15. Applicant has further argued that Fujikawa and Chesney, in combination with Harada, fail to teach all the limitations including an air chamber open to atmosphere and interposed between a wall surface of the protection member and an end surface of the substrate. As expounded above, the examiner considers Harada to teach these exact limitations, and as such, the rejection stands.

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTIAN Y. JANG whose telephone number is (571)270-3820. The examiner can normally be reached on Mon. - Fri. (8AM-5PM) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor II can be reached on 571-272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3735

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles A. Marmor, II/
Supervisory Patent Examiner
Art Unit 3735

CJ
/C. Y. J./
Examiner, Art Unit 3735
5/21/08